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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,400	10/31/2005	Johan Svanerudh	030481-0244	3293
22428 7590 01/23/2008 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER MANUEL, GEORGE C	
			ART UNIT 3762	PAPER NUMBER
			MAIL DATE 01/23/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/551,400

**Applicant(s)**

SVANERUDH, JOHAN

**Examiner**

George Manuel

**Art Unit**

3762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 22-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/28/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 30, 31 and 33-39 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed subject matter does not appear to produce a useful, concrete and tangible result. The final result achieved by the claimed invention appears to be only that of displaying a calculated value. This result contrast with the result obtained in claim 22, where an optimal implant device setting is identified as the setting where the predefined parameter is maximal. Step f) of claim 30 is merely inferentially directed toward medical implant settings, the pressure measurements are performed during measurement periods using predetermined medical implant settings in a medical implant controlling the application of stimulation pulses. Therefore, the calculated value result of claim 30 does not show a "useful, tangible, and concrete" result.

Claim 32 appears to be statutory because the method further comprises the step of choosing the implant setting from the measurement session list.

### ***Claim Objections***

Claim 30 is objected to because it appears  $\Delta 1$  should be  $\Delta t_1$  and claim 34 is objected to because it appears  $\Delta 2$  should be  $\Delta t_2$ .

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehra (US 5,129,394) in view of Yu et al (US 7,110,817).

Mehra teaches the signals derived from the pressure sensors 118 or 218 and applied to the microprocessor/memory 10 of FIG. 4 may be employed to develop pulse, systolic and diastolic pressure values, long term mean or average values of these pressure values or both, short term mean or average values of the same pressures, the time derivatives ( $dP/dt$ ) of the pressure signals and corresponding mean or average values thereof over short and long terms and the gross rate of change ( $\Delta P/\Delta t$ ) of same. The microprocessor/memory 10 may include specific circuits for differentiating the pressure signal, measuring the peak pulse, systolic and diastolic pressures and the mean and gross rate of change of these values.

Mehra also teaches a mean blood pressure calculation may be performed in various manners. The microprocessor/memory 10 may consist of a mean value

rectifying circuit having a suitable time constant including two peak detecting amplifiers which are connected to the signal from the pressure transducer with opposite polarities so that the one amplifier produces an output signal representing the systolic blood pressure, whereas the other amplifier produces an output signal representing the diastolic blood pressure.

Yu et al teach left ventricle LV contractility may be estimated by measuring the peak positive rate of change of the LV pressure during systole. This is the maximum positive derivative of the LV pressure, denoted by  $LV+dp/dt$ .

One of ordinary skill in the art would have found it obvious to combine this teaching with the device disclosed in Mehra because the measurements disclosed in Yu et al are used to optimize ventricular contractility as measured by a maximum rate of pressure change during systole and to deliver a pacing pulse to achieve a desired cardiac parameter optimization. Furthermore, a compromise timing of pacing may provide optimal improvements in both peak positive pressure change during systole and aortic pulse pressure.

Regarding claim 29, one of ordinary skill in the art would have found it obvious to display the values of the predefined parameter in a three dimensional illustration because Yu et al suggest three-dimensional visualization is relevant based on the cited reference publication of echocardiography and because heart pressure values are three-dimensional.

Application/Control Number:  
10/551,400  
Art Unit: 3762

Page 5

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Manuel whose telephone number is (571) 272-4952.

/George Manuel/  
George Manuel  
Primary Examiner  
Art Unit: 3762